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ABSTRACT

An overview is presented of the Guided Self-Analysis System for Professional Development (GSA) for teaching young children. The GSA system and programs are reviewed along with staff involvement, staff responsibilities, the emphasis on flexibility, change in the classroom, and implementation procedures. The GSA early childhood program is then discussed with workbook units detailed for teaching language and concept development, independent thinking, and facilitating strategies. The application of the GSA system to a wide range of professional settings, such as preschool and culturally disadvantaged group programs, is also discussed. Final consideration is given to the relationship of GSA to other early childhood models, a rationale for the system, theoretical orientation, and another GSA program, "Teaching for Inquiry." (LH)

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GUIDED SELF-ANALYSES EARLY CHILDHOOD EDUCATION PROGRAM

Teaching Young Children

PS 005904

Overview

This program is being developed under the auspices
of the Office of Education, Bureau of Educational
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Guided Self-Analysis Systems

TABLE OF CONTENTS

	Page
THE GSA SYSTEM	2
CHAPTER 1: **OVERVIEW**	3
The GSA System	3
The GSA Programs	4
Staff Involvement	6
Staff Responsibilities	6
Flexibility	7
Conclusion	8
CHAPTER 2: **CHANGE IN THE CLASSROOM**	9
CHAPTER 3: **IMPLEMENTATION PROCEDURE**	12
TEACHING YOUNG CHILDREN THE GSA EARLY CHILDHOOD PROGRAM	14
CHAPTER 1: **WHAT IT IS**	15
Unit I: Teaching for Language and Concept Development	15
Workbook A: *Classroom Talk Patterns*	16
Workbook B: *Language Modeling*	16
Workbook C: *Cueing for Language Production*	17
Workbook D: *Language and Experience*	18
Parent Kit	19
Teacher Aides	20
Unit II: Teaching for Independent Thinking	20
Workbook E: *Classroom Interaction Patterns*	20
Workbook F: *Teacher Questions*	21
Workbook G: *Teacher Responses*	22
Workbook H: *Experience Referents*	22
Workbook I: *Levels of Thinking*	23
Unit III: Facilitating Strategies	24
Workbook J: *Patterns of Reinforcement*	24
Workbook K: *Instructions*	24
Workbook L: *Behavior Management*	25
CHAPTER 2: **WHERE YOU CAN USE IT**	26
Preservice and Inservice Training	26
Paraprofessionals	27
Parent Involvement	28
Preschool	28
Special Education	29
Culturally Disadvantaged Groups	30
CHAPTER 3: **GSA AND OTHER EARLY CHILDHOOD MODELS**	31
CHAPTER 4: **WHY GSA**	33
THEORETICAL ORIENTATION	34
ANOTHER GSA PROGRAM	42

THE GSA SYSTEM

CHAPTER 1: OVERVIEW

THE GSA SYSTEM

The Guided Self-Analysis System for Professional Development (GSA) is designed to enable teachers to become responsible for their own professional development. Making use of a school district's existing personnel, GSA provides assistance and guidance for each teacher to improve his classroom procedures and, therefore, his teaching effectiveness.

The function of a teacher is to facilitate pupil learning. No one, however proficient, can *make* another person learn. But the methods used in teaching, and the manner in which instructional content and materials are sequenced, will influence the ease with which a pupil learns new concepts, new language and new skills. The good teacher is one who knows his pupils, has an *operational* understanding of the ideas and skills to be taught, and helps his pupils explore their individual and collective experiences and expand them into new learning.

For a teacher to improve his effectiveness, he must first become aware of his own teaching techniques and the ways his pupils respond to them. It is not enough for a supervisor, a fellow teacher, or any observer to point out such things to the teacher. He must discover them for himself. He must be given the means to see precisely what he does when he works with a child, a group, or the whole class. He needs the means to analyze both the form and content of his actions, and to assess their effectiveness. And then he needs constructive suggestions to guide him in improving his teaching.

The Guided Self-Analysis System consists of materials which guide the teacher in analyzing his own teaching behavior, so that he can gain an objective understanding of his strengths and weaknesses. The teacher, or a teaching-assistant, makes videotapes and audiotapes of learning activities in his own classroom. The taping procedure involves a minimum of classroom disruption, using small, portable equipment which requires no special lighting. Each videotape provides a record of fifteen to twenty minutes of classroom interaction between the teacher and his pupils. After the videotape is made, the teacher analyzes his classroom activity using the GSA materials.

The GSA professional analysis is the teacher's private concern. It allows him to conduct his activities in his normal fashion, without the necessity of an "observer" silently watching. With GSA, the only observer is the teacher himself - - it is he who will view and analyze the videotapes. The classroom thus becomes a learning place for the teacher, as well as for his pupils. Through the medium of his own teaching activities, he discovers principles and techniques that will help him to grow professionally. GSA is not merely theoretical; every step has real, practical value, and new ideas which can be applied and tested almost immediately.

As he is guided into a growing awareness and understanding of his own techniques, the teacher also gains a more sophisticated awareness of the curriculum and of the materials which he uses in the classroom. He becomes more conscious of the close relationship between the planning of teaching strategies and the organization of curriculum content. For example, the language unit of *TEACHING YOUNG CHILDREN* helps the teacher see more clearly the importance of oral language for other learning, and to become increasingly aware of his strategies for promoting further development of oral language abilities. This awareness focuses

upon the importance of integrating and sequencing experience and language, and of providing constant opportunities for pupils to utilize their developing languages in discriminating and discussing their experiences. The teacher is helped to explore ways in which he might implement his heightened insights in the classroom. If he is a primary teacher, he may decide to examine story books and primers and make a list of the vocabulary they use. He may then plan a sequence of experiences and language teaching strategies designed to help pupils build these words (concepts) into their own oral language. By doing so, he would aim to make it possible for the children to understand the written words, because they would have already used them in talking about their own experiences.

The understandings gained through GSA thus enable the teacher to effectively vary his materials, his lesson-sequencing, and his teaching techniques to facilitate pupil learning.

THE GSA PROGRAMS

There are two GSA education programs currently in operation. The *TEACHING FOR INQUIRY* program consists of six schedules which focus on the development of thinking skills. This program is designed primarily for use in grades 4 through 12. For the earlier grades (K-3) and preschool years, the program *TEACHING YOUNG CHILDREN* is being developed.

Each GSA program deals very closely with certain key teaching behaviors, enabling the teacher to see just which techniques he is actually using, and encouraging him to make use of those which can be most effective in meeting the educational needs of his pupils. The key (or pivotal) behaviors upon which the GSA manuals focus have been identified according to their relationship to basic principles of learning and important educational objectives.

TEACHING YOUNG CHILDREN consists of three units, each of which focuses on an area of important concerns to teachers who work with young children. The first unit helps teachers become consciously aware of their strategies for promoting language development. The second is designed primarily to help teachers develop pupil thinking skills and conceptual development. And the third unit focuses on other strategies which facilitate pupil learning.

TEACHING YOUNG CHILDREN consists of a series of interrelated manuals, each of which direct the teacher's attention to an important educational objective. Each manual then focuses the teacher's attention on a specific set of precisely-defined teaching behaviors within that overall objective: e.g.,

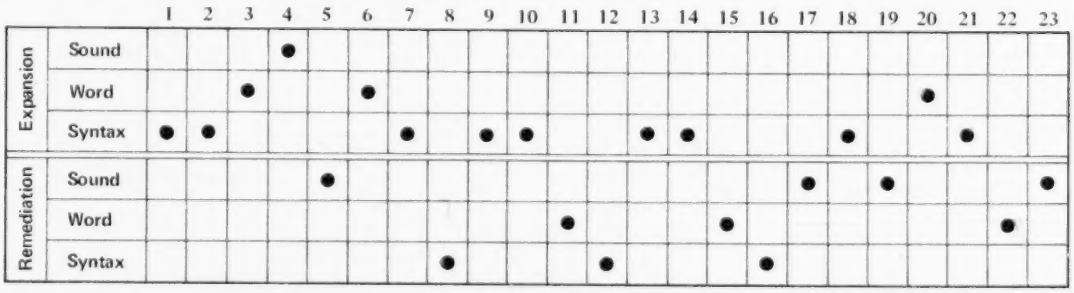
Objective:	development of pupils' thinking skills
Teaching Behavior:	development of a questioning strategy which requires the pupils to move to increasingly more complex levels of thinking.
Objective:	development of language skills
Teaching Behavior:	development of strategies which help the teacher provide opportunities for pupils to use language independently.

The specific teaching behaviors effected by each manual help the teacher appraise his teaching with regard to that particular educational objective.

Each GSA manual is a carefully written guide which enables the teacher to do his own analysis and interpretation of a recorded lesson. He views each videotape three or four times, using a different manual with each replay. Each manual directs him to identify specific behaviors, and provides a means for him to create an easy-to-read record of the particular actions which occurred during the lesson. Guidelines in each manual then help him analyze this data, to determine the effectiveness of his recorded teaching strategy.

The following illustration shows a typical GSA data record, or "Coding Form." The columns on the left indicate the categories of behaviors. As the teacher plays a videotape, he marks the appropriate square on the coding form each time he observes one of these behaviors. When the viewing is completed, the teacher will have a permanent, written record of the pattern and frequency of these behaviors. The GSA manuals then help him to interpret these results and act on them to improve his teaching behaviors for greater effectiveness.

As the teacher employs the successive manuals to analyze videotapes made in his classroom, he constructs a profile of his own teaching behaviors. This profile can be compared with profiles of other teachers, or with an earlier one made by the teacher himself. A major advantage of the profile is that, with additional tapings, the teacher may compare his successive profiles and thus maintain a graphic record of his own efforts toward self-improvement. Teachers who have used GSA have been particularly interested in the fact that they are able to "map" their progress. They have also remarked that the profiles enable them to clearly identify areas of strength in their own teaching as well as areas which need change.



SAMPLE CODING FORM (*Language Modeling* - - Workbook A)

Following the instructions in a GSA manual, the teacher watches his videotaped lesson, looking for specified actions or behaviors. Each time such a behavior occurs, he makes a mark on his Coding Form. The manual then helps him to analyze and appraise his results.

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STAFF INVOLVEMENT

GSA normally involves the participation of various levels of personnel within a school district. A staff member who is responsible for inservice training or curriculum coordination, or someone from the District Supervisor's office, is assigned responsibility for initiating the program. If the school district is a large one, or if the coordinator's schedule is already heavy, he may then organize a central staff of people who will assist him in introducing the GSA program into the district's schools.

The principal of each school participates in GSA workshops to gain full understanding of the functioning and administration of the program. Then, alone or with assistance from the central staff, he introduces his own school staff to GSA and designates a lead-teacher who will assume primary responsibility within the school for training the other participating teachers. This lead-teacher himself receives full training in the use and implementation of the procedures and materials of the GSA program, and all materials he will require to present the program to the participating teachers.

Thereafter, the lead-teacher acts as a guide, helping the participating teachers when necessary, and conducting workshops in which the several teachers may discuss their progress. But the program, from the time they are introduced to it, is essentially in the hands of the individual teachers: it is they who will make the program work, and who will directly profit from it.

STAFF RESPONSIBILITIES

INSERVICE COORDINATOR: (District Level)

- Introduces GSA System to principals, lead-teachers
- Supplies participating schools with GSA materials
- Organizes and coordinates Central Staff to assist in these tasks, if necessary

CENTRAL STAFF: (District Level, where applicable)

- Introduces GSA to principals, lead-teachers
- Trains lead-teachers to coordinate GSA within their schools

SCHOOL PRINCIPAL:

- Selects GSA Program for his school
- Selects lead-teacher to coordinate his school's GSA Program
- Encourages participating-teachers in their development

LEAD TEACHER:

- Presents GSA System to participating-teachers
- Conducts Introductory Workshop to acquaint the teachers with the methods and materials of GSA: presents a demonstration tape of a classroom lesson and helps teachers analyze it, according to GSA guidelines
- Conducts Inservice Workshops regularly, to assist teachers wherever and however such help is needed
- Devises a school-wide schedule providing each teacher with regular taping and viewing time

PARTICIPATING TEACHER:

- Periodically tapes 15-20 minute lessons in his classroom
- Views each tape once for familiarity
- Reviews each tape, using one of the GSA Workbooks,

watching for the particular points mentioned in that Workbook. Records his observations as instructed

- Views each tape 2 or 3 more times, using a different Workbook each time and recording the different observations
- Tallies his written observations
- Analyzes the resultant graphs to determine the teaching techniques he habitually uses and their effectiveness
- Incorporates his new insights into his teaching behavior
- Attends a regular series of workshops, along with other participating teachers and the lead-teacher. Participates in discussions of teaching techniques, classroom behaviors, and curriculum materials as questions arise resulting from each teacher's self-analysis of his recorded lessons
- Acts as a Workshop Leader once or twice during the school year

TEACHER AIDE: (Optional)

- Assists teachers in actual taping procedure
- Tapes his own activities, then works in cooperation with the teacher in analyzing the tape and developing his abilities to be a real force in assisting the teacher in the classroom

FLEXIBILITY

One of the key words in GSA is *flexibility*. It is a program intended for teachers in a variety of teaching situations - - urban and suburban, over-crowded classes and small groups, university-connected lab schools and traditional, conservative schools; and it may be used to emphasize any particular curricular concern, e.g., behavior management, content management, affect management, teaching educationally handicapped children, etc. As it will be used by teachers committed to a variety of educational points of view, GSA has been designed to reach beyond these differences to the basic issues that all have in common.

The Guided Self-Analysis System is a synthesis of essential points of learning theory. As such, teachers with radically different concepts of teaching will nevertheless find the program useful. Being an "open system," GSA may be adapted to fit most teaching situations.

In part, the flexibility of GSA stems from its construction: it is a comprehensive, self-contained program consisting of numerous manuals which are grouped into logical Units. Each Unit is itself an independent program, capable of standing alone. A school could therefore use a particular Unit, which reinforces a particular educational viewpoint, and elect not to use another.

Once a school has elected to use a given Unit, it may then choose to use all, or only some, of the inclusive manuals. Each manual supports the others, but may also be used independently. For example, *TEACHING YOUNG CHILDREN*, the GSA early childhood education program, consists of three Units:

Unit I: Teaching for Language and Concept Development

Unit II: Teaching for Independent Thinking

Unit III: Facilitating Strategies

Within Unit I are four manuals, each dealing with a different facet of language development. (See Part II, Chapter 1 for a full description.) Use of all four provides a teacher with a basis to examine and implement his entire language program. But schools favoring particular treatments of language development may prefer to support their programs by using certain manuals and excluding others. Either approach will accomplish the desired result: to enable the teacher to become aware of the techniques he normally uses in his classroom teaching; to analyze the effectiveness of these techniques; and to experience professional growth through the perfecting of his successful teaching behaviors, and the supplanting of the less successful ones with other, more fruitful teaching measures.

CONCLUSION

A knowledge of teaching techniques does not necessarily imply an application of those techniques. A teacher may know theoretically how to facilitate the learning of certain concepts, but he may not accomplish this purpose in his actual practice. He cannot know this until he becomes aware of what he habitually does when teaching.

Once he has established which of his classroom techniques are successful and which need improvement, GSA encourages the teacher to use his new awareness in his future teaching. Analysis and appraisal of curriculum and materials will give him additional help in tailoring his instruction to his students' needs. The teacher's growing understanding of his past successes and errors will be the foundation of his professional growth and development.

Teachers can improve if they are able to gain objective insights into their own teaching behaviors. But such insights can rarely be "given" to a teacher by an observer, who may not know the specific classroom situation. Knowledge gained by self-analysis is the most meaningful, and the most likely to produce constructive change. The structure of the GSA analysis of teaching provides the teacher with a practical framework for planning clear and continuous steps toward self-improvement.

CHAPTER 2: CHANGE IN THE CLASSROOM

Most people try to do their jobs well. Whether fixing a leaky faucet or performing delicate surgery, the feeling of success that results from work well done provides enormous motivation toward continuing to succeed at a job, and adds to the individual's enjoyment of his work.

Teachers, as professional people, care more than most about the quality of their work. Every teacher wants his students to learn and grow - - and he sees himself as an instrument leading to that growth.

Yet often a teacher is surprised to find that the goals he sets as the aim of his teaching fail to appear in his actual teaching practice. This is not due to any neglect on the teacher's part, but usually results from inadequate training and information about effective classroom teaching procedures. The teacher is told what the goals of teaching are, but not how to reach them.

GSA capitalizes on the very human desire to know who we are and how well we do. Step-by-step analysis of his own recorded lessons helps the teacher identify his areas of strength and weakness. Seeing himself acting in unsuccessful teaching patterns causes a discrepancy between the teacher's actual performance and his goals. Wanting to do the best job possible, the teacher will want to eliminate the discrepancy[1] between his teaching as he would like it to be, and as it actually appears on the videotape. His desire to eliminate this discrepancy provides the motivation necessary for the teacher to change his teaching by acting on what he learns through using GSA. As he improves his teaching style, the teacher enhances his self-concept through improving his definition of who he is.

Each GSA program reinforces the teachers' identification with professional ideals and provides usable techniques to assist him in improving the skills necessary to attain his professional goal.

GSA alters the perceptions and behaviors of the participating teachers to effect constructive change in the classroom. The process of altering teaching behavior involves "re-transacting" the role relations between teacher and students. As the teacher encourages the students to talk more, and to develop their own ideas in discussion, the entire atmosphere in the classroom is likely to change. For example, it is common for a teacher to move from a strategy of "lecturing," "telling" and "instructing," to an indirect pattern in which he draws the pupils out in discussion, encourages them to develop their own ideas, and helps them learn to synthesize and internalize the elements of the discussion.

As these changes in student-teacher interaction begin to occur, the teacher must build a new strategy of instructional behavior which will allow him to feel comfortable in the new classroom atmosphere, and to operate successfully within it. The GSA System satisfies this need by continually informing the teacher about what new behaviors to expect, and suggesting methods whereby he can adapt his more "open" behavior into a coherent strategy for facilitating pupil learning.

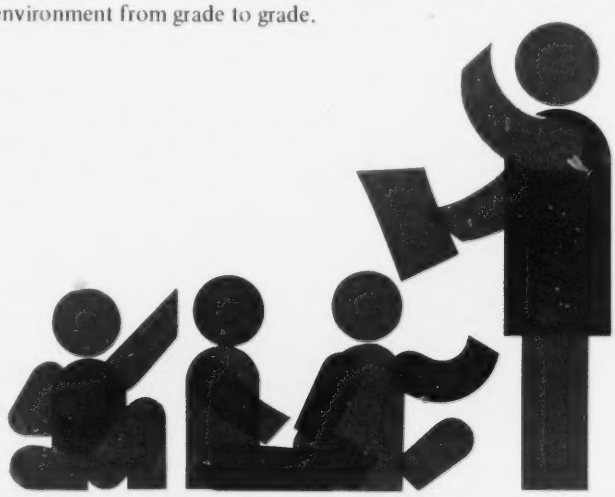
Such new behaviors are not likely to be confined to GSA classrooms alone. As these changes begin to take place, the stud-

[1] For a full discussion of factors affecting the individual's reaction to such discrepancies, see Leon Festinger, *A Theory of Cognitive Dissonance,* Evanston, Illinois: Row, Peterson, 1957.

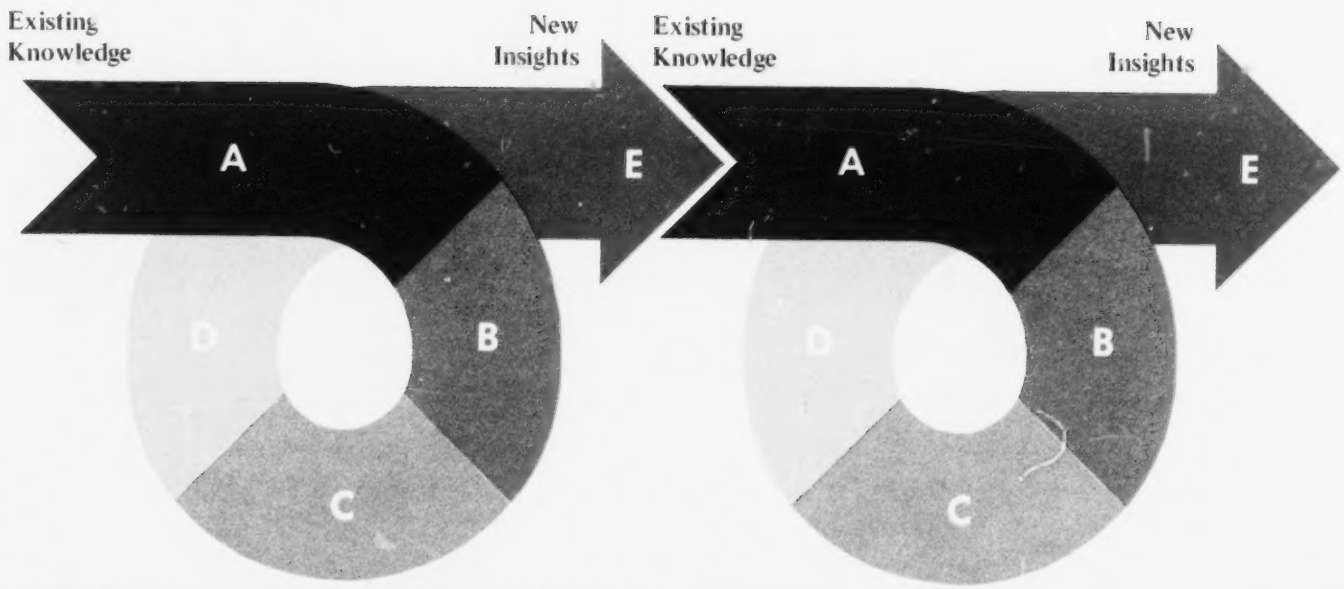
ents may carry them along to other classes, and interact similarly with their other teachers. Teachers participating in the GSA program may also carry the changes outside their own classes, as they relate their successes and experiences to other teachers and administrators. Thus, the changing response pattern between teacher and pupils provides a pivotal intervention which leads to changes in the perceptions and behaviors among individuals throughout the school.

Beyond the classroom, the teacher functions in a variety of role relationships - - with parents, with principal, with other teachers. As teachers who are participating in the program begin to talk about their experiences with GSA, and about their developing insights into teaching and learning, a ripple of change moves throughout the role structure of the school itself. Participating teachers begin talking to others not in the program, and these others become very deeply involved and begin to experiment with alternative teaching strategies. As they do so, they often make new demands on their supervisors and administrators in terms of their developing conceptions of teaching. These demands may, in turn, have profound influence on the content and structure of the relationships between participating teachers and the supervisory personnel.

To insure that the GSA innovation does not become unduly disruptive, it is important that the program be able to operate smoothly and efficiently within existing patterns of school organization. This is taken into consideration in the design of the program: it is clear, concise and manageable. The introduction of videotaping causes few technical difficulties and, more importantly, does not observably interfere in the normal operation of the school schedule. In addition, the participant teachers are able to establish a group solidarity through their frequent workshops. As a result, the changes which each teacher effects in his own classroom are not isolated instances, but part of an overall effort toward improvement made by him and his colleagues. The group effort established by the ongoing GSA workshops help the teachers recognize similar problems; for example, teachers across different grades see that they are working toward the same ends in the classroom. This solidarity provides a real force for change throughout the school, and makes it possible for the teachers to join their efforts to establish a consistent and supportive learning environment from grade to grade.



THE GSA CYCLE



A. Teach lesson, make tape **B.** View, code & analyze tape **C.** Evaluate teaching behaviors
D. Plan ne lesson based on New Insights **E.** New Insights become part of Existing Knowledge

1. The teacher uses his Existing Knowledge (black screen) to plan a classroom discussion.
2. The teacher then views, codes and analyzes a videotape recording of the discussion, and gains New Insights (Color) into his teaching behavior.
3. Using the GSA manuals, the teacher evaluates his teaching behavior in terms of his effectiveness in promoting pupil learning. His new insights are added to his previous ideas about the effectiveness of his teaching.
4. Using this new knowledge, the teacher plans improved discussions which will use teaching behaviors, curriculum and materials to best advantage.
5. His New Insights are completely incorporated into his Existing Knowledge, and become the foundation for his future planning and teaching.
6. The teacher uses this fuller knowledge to teach his next discussion, then makes a new videotape, thus repeating the GSA cycle.

CHAPTER 3: IMPLEMENTATION PROCEDURE

GSA lends itself to use in a variety of educational situations -- both preservice and inservice. Each situation will find its own best means to implement this system. The procedure outlined below has been developed for inservice training of teaching personnel in schools and school districts.

The GSA System is easily adopted into the existing organizational structure of schools and school districts, and can be used in accordance with prevailing school routines. It utilizes existing local personnel, providing them with the means to enhance local staff training.

GSA is set into operation in a series of controlled and predetermined steps. The following list summarizes the implementation procedure for each school:

1. Within each school setting an experienced supervisor or trainer is designated as a lead-teacher. He is trained in the use of the procedures and materials. He is also provided with a set of guidelines for implementing the program within his own school.
2. The lead-teacher holds a workshop in which participating teachers are introduced to the GSA System. They are provided with initial experience in analyzing videotaped samples of classroom teaching. The analysis is guided by a series of related manuals. Each one focuses the teachers' attention on a specific type of teaching behavior.
3. They then use the manuals to guide them in analyzing a training film or tape. The film is viewed a number of times. Each time the teacher views the film, he uses a different code to structure his analysis of the recorded performance. In this way he gains specific insights into the recorded teaching strategy.
4. The lead-teacher works out a schedule for taping and coding. The schedule will make it possible for each participant to videotape sequences of his own classroom teaching. The schedule also provides each participant with access to the videotape equipment for playback and analysis of the recorded lessons.
5. Under the lead-teacher's guidance, each teacher makes his initial videotape. Subsequently he replays the tape three or four times. Each time he replays the tape he records specific data from it onto a Coding Form, following the instructions of one of the GSA manuals.
6. When the teacher finishes coding his tape, he converts his tallied frequencies of specific observed behaviors to simple percentages and graphs. The graphs provide the teacher with a *profile*, a visual and quantitative reference through which he can observe the techniques and results of his habitual teaching behavior.
7. Periodically thereafter, the teachers will be retaped. After each taping the teachers will use the guidelines in the GSA manuals to analyze their own performances. Comparison of successive profiles will tell the teachers how far they have progressed since the first taping and how much further they must move to reach their own developing standards of competency.
8. At regular intervals, the lead-teacher will conduct inservice workshops at which participating teachers will:

a) review and discuss their growing insights into the teaching strategies as revealed through the videotape analyses.
b) discuss their growing understanding of curriculum materials as revealed through successful (or unsuccessful) use in recorded lessons.
c) discuss and attempt to resolve common problems through relating the advantages of different teaching strategies to content and behavior problems.
d) share creative ideas regarding the employment of varying teaching strategies, elaboration and supplementation of the curriculum materials, management of classroom, etc.

TEACHING YOUNG CHILDREN

THE GSA EARLY CHILDHOOD EDUCATION PROGRAM

CHAPTER 1: WHAT IT IS

The GSA early childhood education program is designed for use by teachers of preschool children and those in grades K-3. It focuses on teaching behaviors which have been both theoretically and empirically demonstrated to be effective in helping children develop the linguistic, conceptual, and behavior skills which permit success in school. The program recognizes the close relationship between language and thought, and therefore places emphasis upon teaching strategies which facilitate the concurrent development of linguistic and conceptual skills. The relationship between psycholinguistic development and effective socialization is also recognized.

TEACHING YOUNG CHILDREN consists of a series of manuals designed to help teachers analyze their strategies for helping children develop important language and thinking skills. Teachers use the manuals in conjunction with videotapes made in their own classrooms. The manuals help the teachers code and analyze the tapes in terms of important principles of teaching and learning. The entire program includes three units, each of which contains several manuals. Unit I focuses on the development of language and concepts. Unit II concerns strategies for facilitating pupil cognitive growth. Unit III concentrates on those strategies which promote pupil adjustment and achievement.

UNIT I: TEACHING FOR LANGUAGE AND CONCEPT DEVELOPMENT

In order for children to achieve in school, they must learn the language used in school. Not all of this basic language is learned before the child enters school. The role of the teacher of young children in fostering the development of good language skills is especially important. He must realize that language competence is a necessary first step in intellectual development. As a child learns more language, he progresses in his ability to think symbolically and abstractly. Without sufficient language development the child's conceptual development will be inhibited.

Unit I emphasizes the development of *oral* language skills (as distinguished from the other language skills of reading and writing). Oral language is important to conceptual development and provides the basis for both reading and writing. Providing numerous opportunities for a child to use his language will facilitate cognitive growth. The importance of a carefully thought out approach to teaching for language and concept development is clearly emphasized by the study which compared several of the current programs for teaching disadvantaged children. It was found that the one program which led all others in *cognitive* gains (nearly closing the gap existing between disadvantaged and non-disadvantaged children) placed a heavy emphasis on the development of *oral language.*[1]

The GSA early childhood program recognizes the importance of other language skills such as reading and writing, but it stresses the close relationship between oral and written

[1] Di Lorenzo, L., *Pre-Kindergarten Programs for Educationally Disadvantaged Children,* 1969, ED 038 460.

langu.ge. Before children can read or write words they must become familiar with their sounds and meanings. Then they can learn to relate those sounds to the printed symbol. *TEACHING YOUNG CHILDREN* emphasizes oral language as the foundation of all other language arts.[2]

Workbook A: *Classroom Talk Patterns*

Teachers are increasingly concerned with the amount of talking they do compared to the amount of pupil talk. They are uneasy when pupils contribute little language to classroom discussion. However, they lack a simple and objective means to determine the relative proportion of classroom time filled by teacher and pupil talk.

Workbook A helps the teacher gain an overall picture of the talk pattern that characterizes his classroom discussions. The teacher uses *Classroom Talk Patterns* to find out whether he himself does most of the talking, or whether he consistently encourages his pupils to express their thoughts verbally. The manual also helps him understand the relationship between the talk pattern and pupil language development.

Using Workbook A the teacher will record the respective length of pupil and teacher talk. Through consideration of lesson content, pupil group size and level of pupil language ability, he will discover the appropriateness of his participation in classroom talk and will learn whether his talk intervenes to cut off pupil discussion, or whether his talk is directed to sustaining and encouraging pupil language and thought.

The teacher will consider some important things about the structure of his classroom discussions. For example, he will discover which pupils do the greatest amounts of talking and whether these pupils have common characteristics, e.g., cultural background, position in the classroom, language ability. Comparison of successive videotapes will enable him to discover whether he invites all of his pupils to participate. He will also be able to identify those pupils who usually respond with limited language (words and short phrases) and those who give more extended responses.

After the teacher has looked at the patterns of his language interaction with pupils, he will want to investigate some of the possible factors affecting that interaction. The remaining manuals in the language unit consider these factors.

Workbook B: *Language Modeling*

The teacher may discover that he does most of the talking and his pupils contribute only small amounts of language. There are several possible explanations for this:

a) The teacher may allow few opportunities for the pupils to talk. Lack of such opportunities necessarily inhibits pupil language development.

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[2]Linguist John Carroll takes exception to early emphasis on reading skills: "Progress in reading depends upon progress in speech . . . Oral language development should be allowed to run ahead of reading development at all stages." From *The Study of Language*, Cambridge, Mass.: Harvard University Press, 1953, Pg. 149.

b) The teacher may be asking his pupils to talk about things for which they have not yet developed appropriate language.

c) Some of the pupils may have great difficulty articulating, and the teacher may be hesitating to ask them to speak.

In the latter two cases, the children need language models.

Where pupil language is insufficient, the teacher must provide the language needed. The teacher can most effectively help children expand their language by providing models and asking the children to use them. When the children need to overcome speech difficulties, the teacher can help them by providing models to remediate specific language problems.

Language Modeling will focus the teacher's attention on the models he gives his pupils. He will determine whether his models help the children to expand their language and to remediate their language difficulties. He will learn to consider the language demands of the curriculum, and model language which will help the children meet those demands. He will also learn to listen for individual language problems and give remediation models to help the children overcome those problems. The underlying assumption of Workbook B is the fact that children cannot talk about something unless they have the necessary language. The teacher must be ready to provide that language. He can do this most efficiently by providing language models.

Language Modeling will be especially useful for those teachers who are using a structured language program, such as the Engleman-Bereiter materials. Analyzing and evaluating his language models will help the teacher improve his effectiveness in providing new language and in teaching his pupils to use that language correctly. However, it would clearly be a mistake to assume that *Language Modeling* is useful within structured language programs only. Every teacher uses language models to provide new language and remediate specific language difficulties. Workbook B will help the teacher recognize those moments when language modeling is appropriate, and thus help him use models more effectively. More importantly, *Language Modeling* will show the teacher the importance of making sure that his pupils are taught the appropriate language to use in conjunction with all their classroom activities. When pupils are encouraged to use language to describe and talk about what they are doing, their language abilities develop significantly.

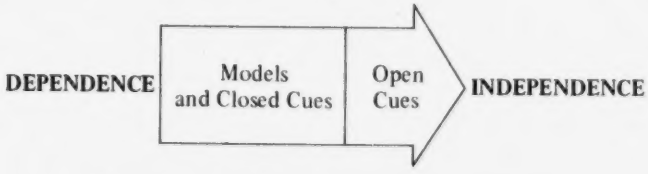
Workbook C: *Cueing for Language Production*

A certain amount of pupil language in a discussion can result from the cues the teacher gives to encourage a pupil to talk. Language models are cues for pupil language, but are limited because they require the pupil only to repeat what the teacher has said. In addition to providing language models, the teacher must encourage the pupils to use their own language independently. The pupil is dependent on the teacher for new language experiences, but he is also capable of independent language use. The teacher must be sensitive to his pupils' capability of moving beyond his models. He must facilitate that movement at the right time by cueing his pupils to talk independently. Unless the chil-

dren are encouraged to use language independently, they will have great difficulty in gaining control of new language and difficulty in using language to facilitate and elaborate their thinking skills.

Workbook C helps the teacher discover the relationship between his cues and the amount of language his pupils produce. This manual distinguishes two basic kinds of cues, closed and open. Closed cues are questions or other invitations to talk which place restrictions on the amount of language a pupil can use in response. For example, language models are closed cues. Other closed cues, such as questions requiring one-word answers, move beyond the imitation of the teacher's language but still elicit very limited responses from pupils. Open cues call for the pupils to use language independently and creatively. Open cues place no restriction on the amount of language the child will use. Using Workbook C, the teacher will analyze his pattern of cueing and find out if it helps pupils move toward language independence. He will learn ways to plan a cueing strategy that will be of most benefit to his pupils' individual language needs.

The cueing strategy presented in Workbook C may be represented by the following arrow diagram.



Strategy for Developing Independent Language

An effective strategy for promoting language development is one which helps children acquire new language with which to symbolize their experiences, and encourages them to use this new language independently. The test of such a strategy is, ultimately, the children's ability to use their developing language independently to clearly communicate their own ideas. If pupils have only experienced a teaching strategy which used closed cues, and thereby restricted their experience with language, they will be unable to use independent language to talk about the new ideas they are learning. Therefore it is important that the teacher follow a cueing strategy which moves gradually from a pattern of models and closed cues, to one of open cues. *Cueing for Language Production* helps the teacher learn to apply this basic cueing strategy. First, he will use language models and closed cues to introduce new language and help his pupils learn to use that language. Second, he will move to a series of open cues which encourage pupils to use the new language independently. This strategy helps the pupils acquire new language, and use it to talk about their own experiences.

Workbook D: *Language and Experience*

Language mediates our perceptions of experience; conversely, experience provides the grounding for the meaningful acquisition of new language. The teacher's role in contributing to the development of pupil language is therefore two-fold. He must, on the one hand, help his pupils enrich their perception of experience by elaborating the language which they can use to talk about their experiences. On the other hand, he must facilitate the acqui-

sition of that language by helping his pupils relate language to their direct-concrete experiences. He will help pupils elaborate their language by providing language models, and will then cue them to use that language independently to talk about their experiences.

Language modeling and cueing may prove to be meaningless exercises unless the language the children use is based on their own direct experience. Children need to connect object and concept labels with concrete experience before those labels can be meaningfully incorporated into the language they use. Whenever the teacher models an object label, he should do so in the presence of the object (or a representation) so that the children can connect the language to direct experience. When the teacher cues his pupils to produce language, he should be certain that he has built up necessary background experiences so that the pupils can use the language meaningfully.

Language and Experience adds another dimension to cueing. It will help the teacher consider his models and cues in terms of the level of experience (direct, visually represented or described) to which the children can refer when answering. This manual will help the teacher see that his cues will elicit more language if his pupils have had direct experience with the subject of the cue.

Workbook D also relates to the other manuals in the language unit. The teacher will interrelate the coding data from all of the language manuals to determine his success in developing an experience-based language program designed to help children attain language independence. The teacher who uses the language manuals successfully will have his pupils actively participating in discussion in which he has: 1) minimized the amount of teacher talk (Workbook A); 2) provided necessary background language and information through language models (Workbook B); 3) cued his pupils to respond freely and independently (Workbook C); and 4) reinforced the acquisition of language through relating language to concrete experience (Workbook D).

Parent Kit

Parents play a vital role in the initial stages of their children's language development. Once the child enters school, the parents can continue to foster language development in close cooperation with the child's teacher. Therefore, the language unit will include a language development kit for parents to use at home with their children.

The Parent Kit will contain a pamphlet explaining the GSA procedures which the teacher is using in the classroom. It will encourage parents to participate actively in their child's language development. The pamphlet will also contain a behavior checklist which parents can use each day to record their efforts at helping their children. The checklist will concentrate on language modeling and cueing. The parents will be encouraged to make use of the words which are being taught in school.

A teacher's handbook will also be included in the Parent Kit. The handbook will outline procedures for involving the parents in the language development program. The teachers will also be provided with training films, which may be used in parent-teacher conferences to explain the GSA program. The films will

instruct the parents in the methods of modeling and cueing they will use with the Parent Kit.

Teacher Aides

Teachers who have paraprofessional or parent aides in their classrooms can involve them in using *TEACHING YOUNG CHILDREN.* Effective teaching of language skills often occurs in small groups; small group discussion also allows the greatest opportunity for every pupil to practice using language independently. If classroom aides are familiar with the strategies and techniques for teaching language skills, they can provide valuable assistance in executing an effective language development program. Unit I will include supplementary material for use in helping instructional aides understand the nature and purpose of the strategies for promoting language and concept development in young children. This material will provide guidelines for integrating the inservice training of teachers and aides.

UNIT II: TEACHING FOR INDEPENDENT THINKING

Unit II of *TEACHING YOUNG CHILDREN* will draw the teacher's attention to those teaching behaviors which can best facilitate the child's emerging thinking abilities. Five workbooks are projected for the unit: 1) Classroom Interaction Patterns, 2) Teacher Questions, 3) Teacher Responses, 4) Experience Referents, and 5) Levels of Thinking. The five manuals are intended for use in various combinations so that the teacher can compare information gained from one with the others. The emphasis in the unit will be upon the use of questioning strategies which prompt children to think about their experiences and begin to recognize the logical elements of those experiences. The teacher will be cautioned to use questions which are clearly stated, and which relate directly to his pupils' immediate experiences.

Workbook E: *Classroom Interaction Patterns*

Before the teacher can analyze the cognitive complexity of his questioning strategy, he needs a general idea of the pattern of communication in his classroom discussions. The pattern of communication is an important factor in the quality of pupil ideational development. Ideas are often developed according to the teacher's lesson plan, but in such cases it is often the teacher alone who takes the initiative for the introduction and development of ideas in discussion. Pupil contributions are limited to "filling-in-the-blanks" with small bits of information. If pupils do not have opportunities to work with ideas verbally, the teacher cannot be sure that they have gained any real understanding of those ideas.

Workbook E will help the teacher map the flow of develop-

ment of ideas in discussion. He will learn whether or not *he* is contributing and developing most of the ideas in the discussion, thereby inhibiting pupil participation. Or he will discover whether he is encouraging *the children* to contribute ideas and develop them, thereby optimizing opportunities for the pupils to think independently.

When the teacher has determined the pattern of interaction in his discussions, he will want to look more closely at the teaching behaviors which may be contributing to the progress (or lack of progress) in pupil thinking. The remaining four manuals in the unit consider these behaviors.

Workbook F: *Teacher Questions*

Just as questions are cues for pupil language production, they are also cues for pupil thought. The complexity of thinking (as indicated by the content of pupil language) is largely dependent upon the kind of questions which stimulate that thinking. For example, some questions have well-learned, reflexive responses (e.g., "What's your name?") which require little thought. Others require putting various bits of information together to form a more complex whole.

It is especially important that the teacher of young children is aware of the kinds of questions he asks. If he finds that his pupils are neither contributing ideas nor developing them, it may be that his questions are too difficult - - the children may not have the concepts or thinking skills required to respond appropriately. In such a case the teacher would probably need to confine his questions to the naming and describing of perceived phenomena, to establish a firm base for the more complex cognitive tasks of classifying and exploring relationships.

Workbook F will help the teacher categorize his questions according to the nature and complexity of the thinking tasks which the pupils are asked to perform. The categories identify three levels of thinking. Level I (Information) questions ask the pupils to name and describe objects and events. For such questions, the children can readily use their concrete thinking skills. Level II (Grouping) questions require the children to think a bit more abstractly in order to categorize or classify objects and events, and to discover relationships among them. Level III (Analysis) questions require the most abstract thinking. Such questions focu upon complex relationships, structures, qualities, processes, etc. This manual will help the teacher develop questioning strategies which lay a firm groundwork for helping children move from lower to higher level thinking. It will help him focus more clearly upon the critical need for properly sequencing ideas and learning tasks, thereby making it possible for even young children to gain control of ideas, and to develop an awareness of their continuing intellectual growth. The manual will call the teacher's attention to the need to be concerned about his strategies for facilitating the development of pupil thinking - - whether these are implemented in the context of a "structured learning activity" or in the context of spontaneous classroom activities.

Workbook G: *Teacher Responses*

The nature of the teacher's responses to his pupils is an important factor in the development of pupil thinking skills. His responses can either encourage or inhibit pupil thinking and talking. Children quickly learn to recognize teacher language - - verbal or otherwise - - that signals the end of pupil talk. Language like "OK," "That's an idea, but . . .," or an abrupt shift to another pupil tells the child that his contribution is finished. Pupils may become accustomed to talking (and thinking) only long enough to elicit the closure response from the teacher. Since the teacher's response indicates that no further expression of thinking is required, it is unlikely that the pupil will continue to take a mentally active part in the development of the discussion. Such a situation, although common, is not conducive to promoting cognitive growth. The child's thinking, rather than becoming independent, becomes dependent on the teacher, as the teacher's responses signal when to think and how much to think. To develop independent thinking skills, pupils must be allowed to develop their own ideas through sustained verbalization and the corrective feedback which it should bring.

This manual will help the teacher find out if he responds in ways that cut off pupil thinking, or if he gives responses which sustain and encourage pupil thought. He will discover that even verbal rewards (such as "fine" and "thank you") may function to close off pupil thinking. He will be encouraged to give responses that will help pupils extend their thinking through sustained contribution to the discussion.

Teacher Responses will show the teacher the effect his responses have on his pupils' emerging thinking capabilities. He will see that a response pattern of moving from child to child, without allowing a single pupil to fully verbalize his thoughts, is one which *dominates* pupil thinking. On the other hand, a response pattern which encourages sustained pupil contribution also encourages the children to think independently and creatively.

Workbook H: *Experience Referents*

Before children can begin to think abstractly, they must accumulate many concrete experiences which they can later manipulate and integrate into abstract thought. In the early preschool and primary school years, teachers are concerned with supplying these concrete experiences. The child can learn to manipulate ideas verbally, but unless those ideas are grounded in concrete-empirical experience they will be devoid of meaning. The questions a teacher asks must allow the child to apply his own experiences if he is to develop his thinking skills. Unless the child can relate some direct or vicarious experience to the questions he is asked, he may be unable to provide adequate answers.

Experience Referents look at teacher-posed questions in terms of the level of experience (direct, visually represented or described) to which the pupil will probably refer when constructing an answer. The teacher will learn that questions which refer to direct, concrete experiences are the most effective stimulators of pupil thinking. Workbook H will help him organize his questioning strategy to build on his pupils' experience (or lack of experience). The teacher will learn to ask questions which encourage

children to use their concrete experiences in organizing their thinking.

Experience Referents helps the teacher build on the use of those pupils' experiences which were gained through use of Workbook D, *Language and Experience.* Direct experience is important for the development of both language and thinking abilities. In building language skills, concrete experience helps the child learn words which have real meaning for him, and are not empty verbalizations. In building thinking skills, direct experience helps the child relate ideas to the work about him. With *Experience Referents,* the teacher will learn to construct questioning strategies based on the immediate experiences of his pupils, and thus provide the vivid and meaningful basis for further concept learning.

Workbook I: *Levels of Thinking*

To obtain a complete picture of the effectiveness of his efforts in helping pupils develop independent thinking skills, the teacher must analyze his pupils' responses. He will want to find out if they are following the development of a lesson, and giving responses which indicate progressive movement to higher levels of thinking. The feedback he receives from his pupils will give him information about whether his questions stimulate his pupils to think independently or whether they stimulate rote responses.

Levels of Thinking will allow the teacher to match each pupil response with its corresponding teacher question, to determine whether the development of his questioning strategy is compatible with the development of pupil thinking. For example, when the teacher moves from lower level questions to questions requiring more complex thinking skills, do the pupils respond accordingly? The teacher will discover whether the children are answering his more difficult questions with responses evidencing the use of appropriate complex thinking. He will be helped to adapt his questioning strategy to enable the children to make appropriate responses. And he will learn that he must listen carefully to pupil responses so that he can adjust his questioning strategy within the ongoing discussion, to assist the pupils in moving to higher levels of thinking.

UNIT III:
FACILITATING STRATEGIES

Unless children can count on a consistent, supportive environment where the roles of pupil and teacher behavior alike are well defined, much classroom time and energy will be expended on activities other than learning activities. For children to be free to concentrate on learning tasks, they need to have a clear idea of what is expected of them.

The final unit of the early childhood education program, *TEACHING YOUNG CHILDREN,* considers those teaching behaviors which are crucial to the establishment of a classroom environment where language and cognitive development can proceed smoothly. The three manuals in this unit look at the teacher's 1) Patterns of Reinforcement, 2) Instructions, and 3) Behavior Management.

Workbook J: *Patterns of Reinforcement*

Young children, when beginning the very difficult tasks of school learning, need all the praise and encouragement they can get. The social approval of the teacher is often very important for pupil achievement motivation. A kind word or a pat on the back for a job well done can provide incentive and help pupils meet learning demands.

Workbook J will focus the teacher's attention on the lesson-related reinforcers that he gives his pupils. These reinforcers are distinguished from the reinforcement given to control non-lesson-related behavior. The teacher will become aware of the effect his verbal and non-verbal rewards have on the achievement of his pupils. He will learn that a small amount of his encouragement (reward) can determine whether a child persists at a challenging task or gives up in frustration. Praise must be earned, however, or rewards will become meaningless. This manual will also help the teacher consider how he can optimize the effectiveness of his reinforcement strategy.

Workbook K: *Instructions*

Clear and well-ordered directions and instructions are essential if a child is to succeed at any task. Many behavior problems and other classroom disruptions begin because children are unsure of how to proceed with their assigned tasks. Teachers can facilitate the completion of assignments and projects by giving adequate and clear directions and instructions.

This manual will take the form of an inventory. It will consist of guidelines suggesting the sequence in which instruction and direction-giving should proceed in order to achieve maximum clarity. The teacher will look at a videotape for sequences of instruction and direction-giving, and compare his behavior to the suggestions on the inventory.

Workbook L: *Behavior Management*

Teachers are often confronted with behavior problems that seem unsolvable. In exasperation a teacher will declare that he has "tried everything" and still the child misbehaves. The teacher may then want to examine the behavior management techniques he uses and try to determine why they are or are not effective. This manual will help him to do this.

Workbook L looks at three of the usual behavior management strategies: reward (verbal and non-verbal), punishment (verbal and non-verbal), and behavioral options. Behavioral options allow the disruptive child to be removed from the trouble spot without removing him from the learning environment. The options include working in a new place in the room, working with different pupils, and working on a different task. Only as a last resort should a child be removed from the learning situation altogether. (Such removal is a fourth option - - Time Out.) With the help of Workbook L, the teacher can find out what proportion of his management strategy is taken up by each management technique. He will also consider the effectiveness of each technique for controlling disruptive behavior in his own classroom situation.

CHAPTER 2: WHERE YOU CAN USE IT

The GSA System can be applied to a wide range of professional settings. The interaction it calls for is applicable to any group size: large class, small group discussion, or one-to-one teacher-pupil situations. The manuals are easily adaptable to the particular teacher's (or school's) concept of teaching, and can be used to help teachers improve their handling of whatever teaching strategy they wish to use. The system can also be used to focus the teacher's attention on specific teaching objectives, making GSA a flexible, useful training program in a variety of situations.

In the sections below, we will briefly discuss several settings for which the GSA early childhood program, *TEACHING YOUNG CHILDREN,* is particularly applicable. It should be remembered, however, that the GSA System can be successfully applied to other teaching situations as well.

PRESERVICE AND INSERVICE TRAINING

The GSA System is designed to be equally applicable in both preservice and inservice settings. For preservice certification programs, GSA helps the student apply what he is learning in his coursework to his practice teaching. Commonly, this coursework includes "methods" and philosophy courses which provide abstract definitions of good teaching. Unfortunately, these courses seldom give guidelines for putting such definitions into practice. The GSA System incorporates many of the principles of learning and instruction which underlie these foundation courses and, at the same time, helps the student apply these principles in his practice teaching.

GSA may be incorporated into the structure of any teacher-training program, whether under the auspices of a university or under the direction of a local Board of Education or other agency. The method of implementation can vary according to the requirements of each specific situation.

For example, a college or university might wish to include the GSA System along with their traditional courses in education. Student-teachers could learn to use the system, and practice viewing and analyzing videotapes of experienced teachers. As they began their own practice-teaching, the student-teachers would videotape their own instructional activities and analyze them with the GSA manuals. If practice-teaching occurs in a school setting, it is not necessary for the teaching faculty of that school to be using GSA themselves, but the advantages to this are obvious: experienced teachers could analyze some of their tapes along with the student teachers, pointing out successful and less successful techniques and behaviors as they occur. Student-teachers would see that the profession of teaching is one in which teachers can work together to improve their skills. And in working together on the GSA materials, experienced and student teachers would have the opportunity to establish a meaningful working relationship which would benefit both.[1]

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[1] As more teacher educators have become knowledgeable about GSA, a number of exciting and innovative preservice programs have been proposed. These suggestions will be collected and made available in a special paper focused on the implications of the GSA approach for preservice teacher training.

GSA has been widely used as an inservice program for furthering teacher education. It is significant that this system deals with the actual process of teaching, and thus brings the teacher immediate, useful information which he can incorporate into his teaching techniques. Teachers consider GSA to be both relevant and practical because it enables them to utilize their own classroom experiences as the basis for their efforts toward improvement. In the context of the GSA experience, they begin to see the relationship between good theory and practice. Often, the same teachers who have rejected theory in the standard workshop setting are eager to discuss it when participating in the GSA program.

GSA has also been proven effective for training personnel in workshops, summer institutes and conferences. New curricula and techniques are often introduced in such settings, but workshop sessions rarely deal with the real problems of implementing the new curricula or techniques in the classroom. A teacher has a particular, individual "style," his own way of handling the presentation of information. He must be shown how the new materials can be effectively applied in his own classroom. This can be done by introducing the new materials in conjunction with GSA, thus providing a way for the teachers to "see" how they can be used.

A portion of the workshop can be set aside for a microteaching simulation. Simulated lessons can be videotaped and analyzed using GSA workbooks, so that each teacher can actually use the new materials in a real teaching situation. Subsequent critiques of the videotapes, using GSA manuals, will help the teacher learn to use the materials effectively. Once returned to his classroom, the teacher can continue to use GSA to monitor his lessons, and thus keep track of his success in implementing the new techniques.

GSA can also be utilized with a combination preservice-inservice program in which a student teacher and a master teacher are paired together in the classroom.

Often, the master teacher is at a loss as to what role to take in relation to his student teacher. GSA provides him with a role as the senior partner in an on-going inquiry which is meaningful to both parties. The analysis of videotapes provides a common language for use in talking about problems in teaching. Through this mutual inquiry, the student teacher can gain significant understanding about teaching and, in the process, make a reciprocal contribution to the professional development of the master teacher.

PARAPROFESSIONALS

The use of paraprofessional teacher aides is becoming widespread in many areas. However, it is often easy to confine the aides' activities to maintenance and supervision chores, such as cleaning up the classroom and supervising recess. Aides can be of considerably more help to the teacher if they are prepared to participate in a variety of instructional activities in the classroom. If the regular classroom teacher knows that his aides can handle certain instructional tasks, he will be free to devote his attention to special problems and to plan effective teaching strategies for individual children and small groups.

The teacher will find the GSA materials an excellent means

for training his aides. The aides can learn to recognize the critical teaching behaviors and be encouraged to use them. They can also be encouraged to participate in the instruction while the teacher is videotaping, and occasionally tape their own efforts in small group instruction. The aides can then analyze their own videotaped sequences in terms of the teaching behaviors defined in *TEACHING YOUNG CHILDREN*. Using GSA, the teacher can also diagnose certain areas of pupil strength and weakness and plan with the aide how specific teaching behaviors might benefit the pupil. Through the mutual involvement of teacher and aide in the GSA procedure, the aide becomes a more active participant in the learning procedures in the classroom.

The teacher can introduce the aide to the GSA procedures himself, or a special workshop can be arranged for a group of teacher aides. Paraprofessionals should be trained to seek solutions to general problems and follow their own programs and that of the pupils. The common language and shared experiences of GSA offer a strong incentive for the teacher and his aide to work as a cooperative team.

PARENT INVOLVEMENT

It is generally recognized that a child will not learn effectively while he is at school if he does not receive support for this learning in his home environment. In addition to its applicability for the teacher in the classroom, *TEACHING YOUNG CHILDREN* can be used to structure a more effective interaction between parent and child.

The school can use GSA to inform interested parents of the continued improvement of its teachers and programs. PTA meetings, open houses, parent-teacher conferences, and special meetings can provide opportunities for parents to see the videotapes made in their children's classrooms. As the parents become aware of what actually takes place in the classroom, and of the teacher's efforts to improve the learning environment, they can see that the school is striving to be accountable to the community.

Interested mothers are frequently brought into the classroom as teacher aides. Like other paraprofessionals, they can be given teaching responsibilities and assume a meaningful role in the classroom. The teacher can use GSA to introduce the parent aide to instructional activities and, through the GSA process, parent and teacher will become an instructional team.

In some instances, it may be desirable to take the GSA concept directly into the home, so that parents can reinforce classroom learning activities. For example, the Parent Kit in the language unit helps the parent identify important aspects of language development, and explains how he can help the child increase his language skill. With this knowledge, the parent becomes more responsive to the child's language needs.

PRESCHOOL

There is a trend in education today toward starting children in school at an earlier age. The impetus for "preschool" education derives from two major factors. The first is the recognition that three- and four-year-olds are not only eager but capable of learning far more than was heretofore believed. Second, educators are

currently concerned with the need to provide children from lower socio-economic homes with enriched learning experiences before they enter school. Both of these factors have led educators to conclude that a more cognitive approach to early childhood education is desirable. In today's preschool classrooms, we often see children engaged in structured learning activities, as well as learning social skills and increasing their sensori-motor coordination. The focus has shifted from the custodial nursery school of the past to the active learning environment of the present.

TEACHING YOUNG CHILDREN is especially useful for those preschool teachers who want to help their children build a firm foundation for elementary education. GSA will help teachers channel the natural enthusiasm and curiosity of young children into meaningful learning activities. Much of the current controversy over whether learning takes place in formal, structured lessons or in informal, spontaneous happenings is irrelevant. Children can and do learn in both types of settings. What matters is that the teacher is present to nurture, guide and support the children's intellectual growth. The educational ideology subscribed to by the teacher or school does not predispose either success or failure. In this attempt, what matters is that the teacher aims to systematically implement a teaching strategy based on sound principles of learning and development. In a more structured classroom setting, for example, a teacher may present a pre-planned language activity to teach particular words and language concepts. In a less-structured situation, this same language instruction will occur more spontaneously, interwoven among normal classroom happenings. Either way, the presentation of new language is one of the major tasks of a teacher of young children. The unit on language development will help the teacher examine the ways in which he handles such teachings, and will enable him to fit his methods to the pupils' needs.

One way to focus pupil interest on learning tasks is to ask the pupils stimulating questions. The GSA procedure helps the teacher monitor his questions to determine their effectiveness in maintaining pupil interest and prompting pupils to develop thinking skills. In addition, the teacher can use GSA to examine his classroom management techniques, which are so important for maintaining the young child's motivation for learning. Attention to teacher-posed questions and behavior management techniques will help the teacher establish a rewarding learning environment for the preschooler.

SPECIAL EDUCATION

TEACHING YOUNG CHILDREN can be readily applied to situations involving children with learning disabilities. Here, the term "learning disability" is defined as any educational difficulty resulting from either physical or psychological factors. Children suffering from learning disabilities are often removed from the regular classroom and placed in special classes where they can receive concentrated attention for their individual problems.

While recognizing the real individual differences among these children, the teacher will often find common perceptual-motor problems which interfere with their ability to handle linguistic and conceptual tasks in the classroom. The videotapes will help the teacher isolate these perceptual-motor problems as they

occur within specific learning situations. Using the guidelines provided in the GSA manuals, he can design and implement a lesson which carefully sequences language and cognitive tasks. Then the teacher can videotape again, using the GSA procedure to determine how well the material has been learned. The GSA "tape/retape" cycle allows the teacher to monitor his efforts to provide instructional tasks geared to the special needs and abilities of his pupils.

Often, there is considerable delay between the referral of a child to a special education class and actual placement in that class. GSA can help teachers who have, in their regular class, pupils with learning disabilities. Using the procedure outlined above, the teacher can design individual learning tasks for those who have difficulty with the normal instructional routine. Too often, once pupils are labeled "learning disabled," "educationally handicapped," "emotionally disturbed," etc., teachers tend to exclude them from many learning activities. But in many cases, a pupil with a learning disability is able to do what the other pupils do, providing the material is presented so that he can understand it. If the learning activities are "paced" in line with his abilities, such a child can succeed and remain in the regular classroom. GSA can help the teacher provide such a child with a meaningful learning experience.

CULTURALLY DISADVANTAGED GROUPS

Many children who enter school lack the skills necessary for success in school activities. This disadvantage is most evident in a deficiency with oral language. Language skills are important for adequate social communication, and are critical for conceptual growth. For a child to readily learn to read and write, he must have well-developed oral language skills (be able to discriminate and produce spoken language). The ability to manipulate oral language is directly related to general thinking and problem-solving skills. Because of the close connection between oral language and conceptual development, it is vital that these children catch up to their more verbal peers.

Unless recognized early, the disadvantaged child's language deficiency will be cumulative. Once recognized, an intensive language development program must begin to help the child overcome his lack of language skills. The language development unit in *TEACHING YOUNG CHILDREN* is especially useful in helping the teacher implement such a language program. It helps him design strategies to: a) provide new language for pupils, b) prompt pupils to extend their abilities to use language, and c) help pupils acquire new language meaningfully by relating it to their direct experiences.

In addition, many teachers have disadvantaged pupils who must learn English as a second language. Children who do not speak English at home must learn it in the classroom if they are to succeed in school. Such children may be totally dependent on the teacher to provide them with the language necessary to carry out educational tasks. As the teacher facilitates the acquisition of a second language, GSA helps him monitor his success in providing models of English and in encouraging his pupils to practice their limited English skills.

CHAPTER 3: GSA and OTHER EARLY CHILDHOOD MODELS

Because of its flexibility, *TEACHING YOUNG CHILDREN* can be used with a variety of curricular and administrative approaches to early childhood education. The flexibility derives from two factors: design and content. In terms of design, GSA is equally useful for small and large group settings. The teacher gains useful information whether working with an entire class, small groups, or on a one-to-one tutorial basis. In addition, each manual is designed to be used by itself, with other workbooks from the same unit, or with manuals from other units. The teacher can select those workbooks which will be the most useful for his purposes and that will give him the most insight into his own teaching style.

In terms of content, each GSA manual focuses on teacher behavior important in the education of young children. Most existing early childhood models agree on certain key assumptions concerning teaching and learning. Educators agree that: a) children must be assisted in acquiring the necessary language skills for success in school, b) children must be helped to acquire basic thinking skills, and c) children must be motivated to learn. However, within these general areas, different philosophies dictate variations in the types of teaching objectives designed to reach these goals.

Maccoby and Zellner have identified three basic philosophies common in early childhood education programs:*

(1) Programs oriented toward behavior modification. Performance on intellectual tasks is thought of as a class of behavior subject to the same laws that govern other kinds of behavior. *Education is, or should be, a process of reinforcing children for the desired behavior.*

(2) Programs oriented toward cognitive growth. Performance on intellectual tasks is thought of as reflecting the level of development of mental structures and operations. *Education is, or should be, a process of facilitating the normal stage-wise growth of these processes.*

(3) Programs oriented toward self-actualization. Performance on intellectual tasks reflects whether a child has chosen to master the tested-for contents in pursuit of his own goals. *Education is, or should be, a process of stimulating the child's intellectual curiosity, providing him with a range of experiences and materials appropriate to his existing skills, so that he can learn to become competent in his own physical and social environment.*

The following are intended to illustrate how GSA can be used with programs of each of the three basic types identified by Maccoby and Zellner.

The Behavior Analysis Follow-Through Model typifies the behavior modification approach to early childhood education. The model offers a highly structured learning environment where academic achievement and school behavior is motivated by token reinforcement. Teachers in the Behavior Analysis Model might find Unit III of *TEACHING YOUNG CHILDREN* most useful for

*Maccoby, Eleanor E. and Miriam Zellner, *Experiments in Primary Aspects of Project Follow-Through*, New York: Harcourt Brace Jovanovich, 1970, pp. 25-26.

analyzing their reinforcement techniques. Using Workbooks J and L, the teacher can check the effectiveness of his reinforcement techniques for motivating pupil learning and behaviors which are appropriate for school.

The model also emphasizes the careful assessment of the child's entering skills in order to devise a program to meet his unique educational needs. Entering skills are largely determined by the previous learning experiences the child has had. Workbooks D and H of *TEACHING YOUNG CHILDREN* will enable the teacher to discover if he is helping children relate their own experiences to the language and conceptual activities of school, thereby building a base for later school learning.

A model which emphasizes the developmentalist cognitive approach is the Cognitively Oriented Follow-Through Model. In this model, teachers concentrate on teaching "basic" concepts which are presumed to be the foundation of all intellectual functioning, i.e., temporal relations, spatial relations, seriation, classification. Teachers are encouraged not to tell but to ask; to stimulate the children to make discoveries about their environment; to encourage them to solve simple problems. GSA procedures will help the teacher objectively analyze his questioning strategy to determine whether he is stimulating pupil thinking and encouraging pupils to actively participate in the learning experience.

Communication between adult and child is also emphasized in the Cognitively Oriented Model. Children are helped to verbalize about their ongoing activities, past experience and future expectations. GSA language manuals would help the teacher determine if he is giving the children opportunities to talk and if he is helping them communicate to the best of their abilities. *TEACHING YOUNG CHILDREN* will also enable the teacher to discover where the children need help using language more effectively. He can use GSA guidelines to plan a teaching strategy that will be most beneficial for pupil language development.

The third philosophy of early childhood education is typified by the Bank Street model. The ultimate goal of the Bank Street model is to help the child develop a positive self-image. This goal is the common feature of programs emphasizing self-actualization. At Bank Street, all teaching occurs in response to the childrens' interests. Teachers impose a limited structure on learning activities by carefully organizing the classroom environment and by introducing central topics designed to help the children become aware of their world. The teacher is a guide who sensitizes the children to sights, sounds, feelings, ideas and experiences.

Our position regarding this philosophy is that a positive self-image is based on competence as well as on a supportive environment. Carefully planned teaching strategies do not necessarily lead to an uninteresting, rote learning environment. GSA can be used effectively within this type of model by helping the teacher plan questioning strategies that will help the children investigate their world in a structured fashion. Planning a questioning strategy will force the teacher to carefully sequence his questions so that they build directly upon pupil experiences and help the child develop his thinking skills. As the child experiences success in learning tasks that have been consciously and carefully planned, his competence will positively reinforce his image of himself as a learner.

CHAPTER 4: WHY GSA

The Guided Self-Analysis System of Professional Development is realistically designed for use in today's schools. It can be easily implemented into the existing organizational structure of school districts, and is smoothly adopted into prevailing school routines.

The following design constraints have been carefully adhered to, in order to insure that the GSA System be as efficient and productive as possible.

1. The training system offers maximum effectiveness at minimal cost to the local school district.
2. The training system is physically "packageable." Local districts may order a kit of materials to begin their own inservice training activities, and those activities will help to prepare teachers to implement the program quickly and efficiently.
3. The system is self-contained, thus reducing the need for expensive and difficult-to-obtain external consultants. The limited availability of qualified professional teacher-educators has been a major factor inhibiting dissemination of new programs. GSA develops and mobilizes local talent, and creates functioning leaders within the individual schools and school districts.
4. The program is easily implemented within existing patterns of school organization. GSA thus has little problem with initial resistance, and its chances for success are high -- unlike the case with programs requiring elaborate structural rearrangements. Though a successful inservice professional development program may result in alterations in school structure, those changes which result from GSA tend to move smoothly into a compatible coexistence with the existing school organization.
5. The content and form of GSA are built upon prevailing definitions of what is useful and practical. Therefore, teachers, administrators, and parents easily see the program as desirable, realistic, and operationally feasible.
6. The materials and procedures in the training system are simple, clear, and concise. They can be easily employed and understood by the local personnel.
7. The materials and procedures have a dramatic, positive impact on the participating teachers. They arouse and focus the motivational energies of the teachers, stimulating continuing efforts at self-improvement in teaching.
8. GSA has a built-in "quality control," a realistic and standardized set of analytic categories through which participating teachers and/or supervisors can assess the ongoing progress of the training program.
9. The GSA program includes provisions for continuing operation. The efforts and gains made by all levels of staff members are sustained and supported by a continuing and structured feedback regarding the nature and consequences of those efforts. This results in a successful reorientation of both teaching practices and associated school organizational structure.

THEORETICAL ORIENTATION

GSA has been designed as a staff development procedure to help teachers improve their own teaching. GSA leads to significant behavior change because it enables the teacher to discover areas of need improvement through the analysis of his own classroom activities. The technique used to carry out this analysis is based on interaction analysis.[1] Application of this technique to a record of his own behavior involves the teacher in the psychodynamics of self-confrontation and creates the conditions which lead to change. The GSA procedure attempts to create these conditions and to support the teacher's attempts to work through them effectively and productively. The program is based on two significant principles of behavior change: 1) for *self-confrontation* to produce behavior change, the observed actions must be given definite and salient meaning, and 2) a *group process* of cooperative work toward change is necessary to help the individual actually achieve the changes which are indicated by self-analysis.

The basis for the process of self-analysis is the structure (or *guide*) provided by the GSA manual. Using the GSA manuals, the teacher views videotaped recordings of his classroom activities and identifies specified units of behavior as they occur. These behaviors are recorded on a data record, or coding form. The resulting behavior map is then analyzed in terms of the effectiveness of the recorded teaching strategy. After the analysis has been completed, the teacher is given guidelines to follow in planning specific improvements for his future teaching.

There are two primary reasons why GSA leads to significant behavior change. First, it helps teachers analyze their *own* teaching behavior. This *self*-analysis provides the teacher with new information about what he actually does in the classroom. GSA does not focus on the adequacy of the teacher's ideas about teaching, or on his philosophy of teaching, but on his real teaching behavior.[2] Often the teacher becomes aware for the first time of significant discrepancies between what he imagined his teaching to be, and what it actually is. He may immediately recognize areas of needed improvement and want to begin making changes in his teaching practice.

It is instructive to contrast self-analysis with the practice of using a trained observer to provide the teacher with information about his classroom behavior. The observer, whether he be a supervisor or social scientist, functions as an intermediary agent between the teacher and his own behavior. The teacher does not see what the observer sees, and therefore tends to defend and

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[1]The background and use of interaction analysis is reviewed in the following works. The recent book by Ned Flanders will be especially useful to those seeking a comprehensive overview of developments in the field of education.

Amidon, Edmond J. and John B. Hough (eds.), *Interaction Analysis: Theory, Research and Application.* Reading, Mass.: Addison Wesley Publishing Co., 1967.

Flanders, Ned A., *Analyzing Teaching Behavior.* Reading, Mass.: Addison Wesley Publishing Co., 1970.

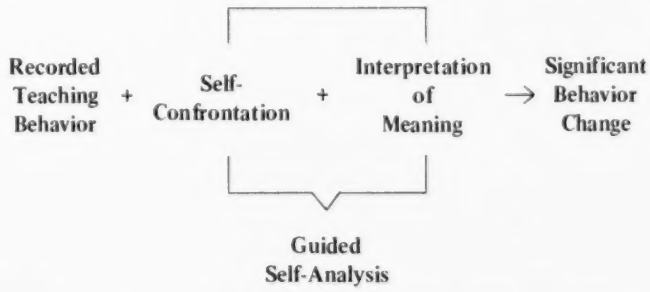
[2]For further discussion of the effects of self-confrontation via analysis of videotape, see Geertsma, Robert H. and James B. Mackie, *Studies in Self-Cognition: Techniques of Videotape Self-Observation in the Behavioral Sciences.* Baltimore: Williams and Wilkings, 1969.

rationalize his undesirable actions. Recent research by Daniel Birch substantiates this conclusion, and indicates that teachers who use a self-analysis procedure such as GSA will be more likely to make positive changes in their teaching behaviors.[3]

Birch observed student teachers who were given full familiarity with the GSA categories and coding methods. This knowledge, of itself, did not have any significant impact on preservice teaching behavior. Some of these teachers were then taught to use GSA manuals to analyze videotapes made by other teachers. Again, there was no significant application of insights to their own teaching.

However, when familiarity with the GSA system was combined with the process of analyzing their *own* teaching behavior, there was a significant change in subsequent teaching style. From this finding, we may conclude that information given to a teacher as a result of an outside observer's analysis will have little impact on his teaching behavior.[4]

The impact provided by self-analysis motivates the teacher's desire to improve his teaching. Once he has seen what he actually does in the classroom, the teacher must be given assistance in improving his abilities. This aspect of the process of change is the second reason for GSA's success. GSA's self-analysis provides not only information about what happens in the classroom, but also gives the teacher the framework for improving his teaching. The categories of analysis are more than defined units of behavior which describe classroom activity: they represent salient behaviors which are significantly related to effective teaching and learning. The set of categories in each GSA manual focuses on an aspect of teacher behavior which is directly related to effective teaching. In the process of using the categories to map his behavior, the teacher automatically learns something about the effectiveness of his teaching. To enhance this learning and to help teachers define for themselves a clear basis for action, the manuals provide interpretive guidelines. These guidelines suggest strategies for organizing both teaching behavior and content (curriculum). This process of behavior change may be represented as follows:



[3]Birch, Daniel R., *Effects of Inquiry Orientation and Guided Self-Analysis Using Videotape on the Verbal Teaching Behavior of Intermediate Grade Student Teachers.* Unpublished doctoral dissertation. Berkeley: University of California, 1969.

[4]This conclusion is consistent with standard psychoanalytic theory and therapeutic practice. The patient himself does the "work" of analysis. The role of the therapist is to guide and facilitate the patient in his efforts to gain self-insight. See Greenson, Ralph R., *The Technique and Practice of Psychoanalysis.* New York: International Universities Press, 1967.

We begin with the videotaped recording of classroom interaction. This makes it possible for the teacher to see what he actually does in the classroom. To this we add the self-confrontation itself: the teacher views the videotape and observes his own teaching behavior. Next, we add the necessary interpretation of the meaning of the recorded teaching behavior. The teacher does more than simply watch himself teach: he analyzes his behavior in terms of the GSA categories. The categories guide him in seeing the meaning that his teaching has for effective pupil learning. The teacher then uses the interpretive guidelines to further examine the structure and content of his teaching. This makes it possible for him to assess the effectiveness of his teaching, and plan the specific improvements which represent significant behavior change. Note that his representation of the change dynamic does not include the group process component which is discussed later.

For example, consider Workbook G, *Teacher Responses.* The categories in the manual (Closure, Sustaining and Extending) are designed to code the teacher's responses to pupil talk. If he responds to an individual child's talk by cutting him off and asking another pupil to contribute, the teacher's response is coded Closure. If he responds by asking the pupil to continue speaking, or to develop his thinking further, the response is coded Sustaining or Extending. Once the teacher has mapped his response pattern, he can see how many of each type of response he used in the recorded discussion. After the responses have been counted, the teacher is helped to interpret the meaning of his response pattern, and is given guidelines to facilitate this interpretation. He learns, among other things, that a pattern dominated by Closure responses is likely to inhibit pupil thinking. If pupils are not given ample opportunity to work through ideas verbally, they cannot develop their understandings as well as they might if they had been given these opportunities. Thus, the teacher learns something more than what type of responses he did or did not use in the recorded teaching segment: he learns something significant about the effectiveness of his response pattern in providing a positive learning environment.

GSA differs from many interaction analysis programs in its focus on the *meaning* that specified teacher-pupil interactions have for the learning situation. Many interaction analysis systems utilize categories which are designed to *describe* what happens in teaching, whereas the GSA categories are designed to make the teacher aware of specific behaviors which will help him *improve* the content of his teaching. When the teacher uses GSA, he is not simply finding out what he did or did not do to help his pupils learn. He is analyzing his method of organizing ideas and experiences for learning, not simply reviewing a set of overt classroom actions (interactions). In a very real sense, GSA focuses on transactions through which teacher and pupils develop meaning, not just on interactions which express the organization of classroom activities. The GSA System is focused on the relationship between the pattern of teacher-pupil interaction and effective pupil learning.

The categories of analysis are the essential core of the GSA System. The categories are sequentially related in subsets, one set of categories for each workbook. Each manual, and its subset of categories, can be used independently or in conjunction with others. Thus, the teacher-observer only needs to be aware of a few closely related categories at any one time. This makes it possible for those categories to be defined so that the teacher is made aware of the importance and meaning of that particular aspect of his teaching. The teacher views a recording of his own teaching activities, each time mapping only those behaviors which are defined by the subset of categories in the manual he is using. As he replays the videotape several more times, each time working with a different manual, he steadily builds a complex structure of knowledge about his own teaching which leads him to analyze ways in which that teaching can be improved.

The categories in each manual are designed to reflect important relationships between teaching and learning, e.g., the categories in Workbook C, *Cueing for Language Production,* show the teacher that his success in eliciting pupil language is directly dependent on the type of cues he uses. The categories are also designed to represent teaching behaviors which are *pivotal* within the classroom learning situation. *A pivotal behavior is one which affects the nature of other related behaviors.* Thus, when a pivotal behavior is changed, the related behaviors are also changed. For example, the teacher's response and questioning pattern may be regarded as a set of pivotal behaviors. The typical pattern of a high proportion of Closure responses and information questions affects more than the quality of pupil thinking in classroom discussions: it affects the atmosphere of classroom learning as a whole. Such a pattern leads to a general feeling of teacher dominance, in which pupils do not feel confident about their learning capabilities, are withdrawn, and are hesitant to think creatively on their own. Such an atmosphere of teacher dominance is noticeable in many aspects of teacher-pupil interaction, both verbal and non-verbal.

When a teacher who has a high proportion of Closure responses and Information questions uses GSA, he begins to work to change this pattern. He begins to use responses which encourage pupils to make sustained contributions to discussion, and questions which ask the pupils to do more than simply recall

familiar information. Because the teacher's responses and questions are pivotal behaviors, the changes he makes in the pattern will also lead to changes in the character of the learning situation as a whole. The classroom will no longer be characterized by an atmosphere of teacher dominance, and the pupils will begin to take a more active part in learning activities. As they do so, their self-confidence will be enhanced, and they will regard their school activities in a more positive manner: they will begin to enjoy school. Thus, the changes which GSA prompts the teacher to make will lead to changes in both the cognitive and affective dimensions of the learning situation.

The specific changes which are entailed by changes in pivotal behaviors will vary from classroom to classroom. These changes depend on the individual teacher and specific group of pupils involved. If the teacher is serious about improving his teaching, the changes initiated by GSA will lead to a substantial reorganization of the classroom. For example, if the teacher becomes interested in his response pattern, he may move far beyond an attempt to use more sustaining and extending responses. There are any number of ways he might move to provide added opportunities for the pupils to make a more meaningful contribution to their learning. Among other significant changes, he might decide to arrange the classroom differently so that the teaching would be more individualized. This might lead to a different seating pattern, division of the class into several smaller groups, the utilization of learning centers, etc. Any and all of these changes might result from the teacher's concern over his response pattern and subsequent desire to provide a more responsive learning environment for his pupils. The important point is that changes in pivotal behaviors will lead to changes in other behaviors.

GSA makes it possible for the teacher to affect significant changes in complex patterns of classroom behavior. The necessary conditions for these changes are provided by 1) the self-analysis technique, and 2) the fact that this analysis focuses on pivotal teaching behaviors which are defined in terms of effective teaching. However, it is one thing to provide the conditions necessary for change, and another to make that change happen. It is difficult for the teacher to effect significant and lasting changes in his behavior if he is asked to work entirely on his own. He must be given support from his peers, and the continuing opportunity to work as a member of a group of other teachers who are also working to improve their teaching. This *group process* provides that psychological, interpersonal and ideational support which enables the teacher to maintain his efforts toward professional self-development.

This aspect of group effort toward change is made necessary by the nature of complex institutions, such as schools. The teacher's role is not confined to the classroom he teaches in, but includes his relations with other teachers and school personnel. The opinions these others have of his behavior is sometimes as important as the opinion he himself has. If he is not given support from these others, the teacher may be unable to act on the insights he gains through GSA. On the other hand, if he is given this support, the chances are good that he will be able to effectively change his teaching. GSA has been designed to meet this need by providing a structured workshop setting which insures the estab-

lishment of a functioning group of teachers, all of whom are working toward the improvement of their teaching.

When GSA is implemented in a school, care is taken to insure the participation of a group of teachers. One teacher is chosen from this group to function as a lead teacher. The lead teacher oversees the scheduling of the videotaping and playback, and more importantly, is responsible for the periodic workshop meetings. One of the central purposes of the workshop meetings is to provide a colloquim for the teachers to discuss their growing insights into teaching. Each participant is encouraged to present one of his videotapes to the group, discuss his analysis, and lead the others in a discussion of specific ways in which the recorded teaching segment might be improved. Thus, the workshop meetings become not so much a time for talking about GSA, as a time for planning curricular improvements which the GSA analysis brings to light.

The ongoing workshop meetings provide the teachers with a group identity which supports them both in the process of self-analysis and the work of making that analysis pay off in improved teaching. The meetings make it possible for the teachers to share their ideas, and also for them to reach a mutual understanding of how they should work to improve their teaching. This group identity gives the participant teachers strength within the social system of the school. It is not simply a question of a few teachers working in isolation, but of a group of teachers working together. Other teachers and personnel will become interested in the group's activities and seriously consider the changes which the participants are making in their classrooms. Thus, the GSA group provides an institutional basis which makes it possible for GSA to succeed in implementing change in teacher behavior throughout the school.

In conclusion, we may summarize GSA's theoretical orientation with three related statements.

1. GSA leads to significant behavior change through the procedure of self-analysis. The fact that the teacher bases his analysis of teaching on his own behavior gives that analysis impact and relevance. This impact has been found lacking when teachers have been given similar information about their teaching by outside observers.
2. GSA provides the teacher with significant information about his teaching by structuring his self-analysis in terms of pivotal teaching behaviors which directly affect pupil learning. The GSA categories incorporate critical principles of learning which may be applied in a variety of teaching-learning situations. Thus the GSA analysis helps the teacher generate a clear model of effective teaching which he can use to plan and implement improved teaching strategies.
3. GSA is implemented so that the teacher works to improve his teaching as a member of a group of other participants. The group meets periodically to discuss the analysis of teaching and plan improvements together. This group solidarity helps the teacher effect changes in his teaching. The GSA group of participating teachers also provides the institutional basis for effecting significant change throughout the school.

ANOTHER GSA PROGRAM

In addition to the Early Childhood program, GSA has developed a program for use in the upper elementary through high school grades. This program, *TEACHING FOR INQUIRY*, consists of six workbooks which concentrate on the effectiveness of the teacher's strategy for helping pupils develop critical thinking skills. A brief description of the contents of each of the Inquiry manuals follows:

Workbook A: *Questioning Strategies*

This manual directs the teacher's attention to the kinds of questions he asks pupils. He is asked to classify his questions and the kinds of thinking the pupils must do to answer them satisfactorily. The teacher is asked to consider how his questions help evolve pupils' critical-analytic thinking skills.

Workbook B: *Response Patterns*

Workbook B points out that while the teacher may be using a desirable questioning strategy, aiding his pupils' intellectual growth, he may inadvertently arrest that growth with his own responses to pupil statements. With this manual, the teacher is asked to classify his responses and to decide whether his responses promote or inhibit further pupil thinking. Then he is helped to interpret the relation of his questioning strategies to his response pattern.

Workbook C: *Teacher Talk Patterns*

This manual helps the teacher analyze his classroom talk. He determines the proportion of time devoted to questions and responses, instruction, classroom management, behavior management, etc. The percentages obtained are then entered into a Teacher Talk Profile. The Profile also includes the data from Workbooks A and B. Aided by the guidelines provided in *Teacher Talk Patterns*, the teacher analyzes the profile and determines to what extent the videotaped lesson actually emphasized the development of inquiry skills in pupils. He can readily note what portion of his own talk was instructional. He can also explore the role relationship he has transacted with pupils, as this is reflected in the pattern of his own talk.

Workbook D: *Teacher-Pupil Talk Patterns*

It is with this manual that this last insight becomes most clear. *Teacher-Pupil Talk Patterns* gives the teacher a means of mapping his pattern of communication with pupils. This map adds new meanings to the teacher's self-profile. It reveals the extent to which he intervenes in pupil statements, dominates the classroom with his own talk, controls the flow of talk - - or helps pupils work through their own thoughts.

Workbook E: *Experience Referents*

This workbook helps the teacher assess how much he uses pupils' experiences in building new ideas. A teacher may employ a question/response strategy and a pattern of teacher talk which helps his pupils develop conceptual-analytic skills. His questions, however, may not relate directly to pupil experiences. Pupils will then have difficulty in understanding and answering him. He may also fail to motivate pupils if they cannot relate his questions to their past experiences, or to their own concerns and interests.

Experience Referents enables the teacher to examine his

questions, and to determine how they relate to pupil experiences. He determines whether his questions: 1) are relevant to pupil experiences; 2) are understandable by pupils; 3) build concepts through analysis of pupil experiences; 4) apply concepts and principles to analysis of pupil experiences.

Workbook F: *Levels of Thinking*

This last manual furthers the teacher's insight into his own teaching dynamics. It focuses his attention on the nature of pupil responses to his questions. With Workbook F, the teacher will be able to code the level of thinking required of pupils by each of his questions, and the level of thinking shown by the pupils' responses. The similarity between the level of thinking the teacher required and the level at which the pupils responded will then be mapped on a flow chart. With this map, the teacher can analyze his strategy for managing the cognitive development of pupils. He can also assess the relative success of his efforts.